

Improving oral hygiene for stroke patients

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Abstract:

In stroke nursing, oral hygiene is fundamental and should be a priority. Patients are more dependent on the nursing staff due to problems with cognition, arm weakness, a reduced conscious level, dysphagia or aphasia. Patients rely on nurses for oral care and are at a higher risk of xerostomia (dry mouth). Effective oral care removes plaque and prevents complications such as pneumonia which would increase patient length of stay. A lack of knowledge exists amongst nursing staff in the area of oral conditions and evidence based oral hygiene. Different practices exist based on traditions or experience and education is limited. A standardised assessment tool and oral hygiene guideline should be developed to support and ensure that effective oral hygiene occurs.

Key Words: *Oral hygiene, stroke nursing, education, assessment tool, oral hygiene guideline.*

Introduction:

Oral hygiene is an important aspect of nursing care amongst stroke patients. The benefits of effective oral hygiene include improving cleanliness, removing debris and plaque, preventing complications which would result in increased hospital length of stay (Özden et al, 2013). Patients are able to eat and chew comfortably ensuring adequate nutritional intake with adequate oral hygiene (Chan & Hui-Ling, 2012). However, oral health is poor in this setting due to reduced cognition, lack of awareness of their own deteriorating oral health, reduced motor function and inability to communicate effectively (Brady et al, 2011; Cohn & Fulton, 2006). Zhu, McGrath and McMillan, 2008 (cited in Kwok et al, 2015) found that 83.9% of stroke patients had difficulty brushing their own teeth and are therefore dependent on nurses to maintain their oral health. Dysphagia is common in stroke patients increasing the risk of xerostomia. Certain medications also contribute to xerostomia, such as syrups and anti-hypertensives, as well as the use of oxygen and suction (Brady et al, 2011; Cohn & Fulton, 2006; Kwok et al, 2014). Sugar intake can also increase the risk of plaque formation and therefore oral health education should be provided during their hospital stay (Moynihan & Kelly, 2014).

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Dental plaque, xerostomia and bacteria formation should be identified and addressed (Prendergast, Jakobsson, Renvert, Hallberg 2012; Prendergast, Kleiman, and King, 2013).

Methods

A literature review was conducted to identify best practice of oral hygiene for stroke patients. Cochrane, Cinahl plus, Medline and Pubmed databases were searched using the search terms stroke nursing in oral hygiene, oral care, oral hygiene, stroke, acute care, hospital, mouth care, dysphagia, nursing intervention, education and the truncation nurse. Combinations of these using and/or were also searched. All articles between 2000 - 2016 were explored and articles in languages other than English were excluded.

Barriers to Effective Oral Hygiene

Oral hygiene is considered a low priority, due to other priorities, pressures and time (Brady et al, 2011; Chan & Hui-Ling, 2012; Cohn & Fulton, 2006; Kwok, et al, 2015; Lam, et al 2013). Furthermore, it is often delegated to junior nurses, students or health care assistants with different levels of experience (Brady, et al, 2006; Chan & Hui-Ling, 2012; Cohn & Fulton, 2006; Kwok, et al, 2015). Increased attention needs to be devoted to oral hygiene as poor practice causes harm (Cohn & Fulton, 2006; Prendergast et al, 2013).

Cohn and Fulton (2006) report the build up of plaque from poor oral hygiene leads to a reduction in saliva flow, resulting in a reduced clearance of debris. This causes inflammation and a weakening of the mucosal lining. As a result, bacteria can pass into the tissues and increase the risk of local, systemic infection or pneumonia (Cohn & Fulton, 2006; Chan & Hui-Ling, 2012; Kwok et al, 2015). If these complications exist, patients experience an increased length of hospital stay delaying their recovery (Gosney, et al, 2006).

Education, Oral Hygiene Assessments And Guidelines

Oral Hygiene Guidelines

Within the literature, there is a lack of protocols and evidence for best practice although standardised protocols are recommended to improve oral hygiene (Brady et al, 2006; Chan et al, 2012; Cohn et al, 2006; Kwok et al, 2014; Özden et al, 2013; Prendergast et al, 2012). According to Cohn & Fulton (2006), traditions and different regimes exist in oral hygiene amongst nursing staff. Within the author's area of practice, no guidelines, protocols or evidence-based practice exists and nurses practices vary according to their experience and education which may not have been updated since their nursing training. For some nurses this can mean twenty years of oral hygiene practice based on tradition.

Need For Oral Assessments

Early oral assessment to identify oral health problems and effective oral hygiene practices have been recommended to reduce the incidence of pneumonia; although there is a lack of oral hygiene assessments available (Azodo et al, 2013; Cohn & Fulton, 2006; Kwok et al, 2015; Prendergast et al, 2013; Sorensen et al, 2013). Standardised protocols and daily oral assessments are recommended to improve oral health (Brady et al, 2011; Chan & Hui-Ling, 2012; Cohn & Fulton, 2006; Kwok et al, 2015; Özden et al, 2013; Prendergast et al, 2012). Furthermore, compliance with assessments and protocols are essential and these should be easy and quick to use (Berry, et al, 2007; Prendergast et al, 2013). A patient's oral health should be established on admission through the use of an oral assessment tool, which would also ensure dentures are acknowledged and managed appropriately. If problems are identified early, appropriate care can be provided preventing complications.

Staff Training

The British Society of Gerodontology (2010) reflects on oral hygiene and suggests that there is a lack of staff training in oral assessments and oral hygiene techniques. Without effective education of nursing staff and health care assistants, oral hygiene may remain a lower or delegated priority of care. Time should be given to this task as the implications of ineffective oral health care could be costly and cause unnecessary complications. Brady et al, (2007) recommend training should be provided by qualified professionals such as dentists. There remains a lack of knowledge amongst nurses about oral hygiene and this includes a poor knowledge of oral conditions (Azodo et al, 2013; Chan & Hui-Ling, 2012; Cohn & Fulton, 2006; Kwok et al, 2015). Therefore, education is needed to improve this lack of knowledge amongst nurses and nursing students. Locally an education package was provided which was designed by a nurse educator and dentist. A video was created of effective tooth brushing by the dentist and a PowerPoint presentation was delivered to identify oral conditions, when to refer to the dentist and how to provide effective oral hygiene. As a result practice was standardised. This also allowed for time to reflect on current practice and understand the complications that occur as a result of poor oral hygiene.

Product Choice

Product choice in oral hygiene is not evidence based and there are variations in frequency and type of care provided (Cohn & Fulton, 2006). Some studies report toothbrush and toothpaste are the most commonly used products but others report foam swabs (Cohn & Fulton 2006; Prendergast et al, 2013). Toothbrushes prevent tooth decay, periodontitis and gingivitis and therefore their use is recommended but foam swabs do not prevent these conditions (Chan & Hui-Ling, 2012; New Zealand Dental Association, 2010; Prendergast et al, 2012; Prendergast et al, 2013). Electric toothbrush are more effective at removing plaque and could be considered as standard practice although they are not often provided within the hospital setting (Lam et al, 2013; Yoneyama, et al, 2002). Effective oral hygiene is limited by the products provided by the hospital.

Dry mouth can be a common problem in stroke patients. The New Zealand Dental Association (2010) report that sodium bicarbonate is effective for dissolving mucus,

loosening debris and treating xerostomia. A glass of water should be mixed with half a teaspoon of salt and half a teaspoon of sodium bicarbonate creating an effective xerostomia mouth rinse. However this would not be suitable for patients with dysphagia or facial weakness. Oral hygiene should be carried out twice daily as a minimum, but there is no consensus on the most effective frequency of oral care (Cohn & Fulton, 2006; The New Zealand Dental Association, 2010; Prendergast et al, 2013).

Dentures require specific management as poor denture hygiene causes infection. They should be removed and rinsed after each meal. Dentures should not be cleaned using regular toothpaste as this degrades their condition. If denture toothpaste is not available, regular soap can be used with a toothbrush and should be performed at least twice a day. They should be removed and soaked in water with a denture cleaner overnight allowing the oral cavity important time to rest (New Zealand Dental Association, 2010).

Conclusion: Putting Evidence Into Practice

Effective oral hygiene reduces the risk of complications such as pneumonia and is therefore fundamental. It is apparent that stroke patients require tooth brushing with toothpaste or dentures should be cleaned with soap or denture paste twice daily. For xerostomia, sodium bicarbonate and salt rinses could be used. However for those patients who have dysphagia or facial weakness, this could be problematic and further research is needed to address this problem.

Education should be provided to nursing staff and health care assistants in the latest evidence based practice to ensure practice is standardised and guidelines provided to assist with this. Health promotion should be given to avoid sugar as these patients are already at risk of decay for a number of reasons. This could be provided in a leaflet form so that patients and their family understand the importance of effective oral hygiene. Further research is required for patients who experience xerostomia and have dysphagia or facial weakness, as bicarbonate and salt mouth rinses would not be suitable.

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